

**Environmental
Resources
Management**

399 Boylston Street, 6th Floor
Boston, MA 02116
(617) 646-7800
(617) 267-6447 (fax)

<http://www.erm.com>

25 April 2011
Reference: 0131386

25 April 2011
Reference: 0131386

Mr. Robert Schelmerdeine
Wayland Meadows Development Inc.
2 Washington Street
Foxboro, MA 02035



RE: Transmittal of Groundwater Analytical Data
Former Raytheon Facility
430 Boston Post Road, Wayland, Massachusetts

Dear Mr. Schelmerdeine:

On behalf of Raytheon Company (Raytheon), Environmental Resources Management (ERM) is submitting the results of groundwater sample analyses related to the Former Raytheon Facility located at 430 Boston Post Road in Wayland, Massachusetts (Site). These results are submitted pursuant to 310 CMR 40.1403(10) of the Massachusetts Contingency Plan (MCP).

ERM collected groundwater samples from three wells on portions of the Site within the boundaries of your property on 4 and 7 April 2011. Samples was submitted to Alpha Analytical, Inc. of Westborough, Massachusetts for analysis of chlorinated volatile organic compounds by US EPA Method 8260B. Analytical results are attached to this letter. These analytical data will be provided to the Massachusetts Department of Environmental Protection in the next required MCP submittal.

Raytheon has implemented the Public Involvement Process in accordance with 310 CMR 40.1405. Documents pertaining to the Site can be found at the Board of Health, the Wayland Public Library Public Involvement Plan files, or at www.ermne.com (username = raytheon, password = wayland).

If you have any questions or comments, please contact the undersigned at (617) 646-7800 or Jonathan Hone, Raytheon Company, at (978) 436-8238.

Sincerely,



John C. Drobinski, P.G., LSP
Principal-in-Charge



Jason D. Flattery, P.E.
Project Manager

enclosures: BWSC-123 – Notice of Environmental Sampling
Laboratory analytical reports

cc: Jonathan Hone, Raytheon Company
Louis Burkhardt, Raytheon Company
Ben Gould, CMG Environmental
PIP Repositories



NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to Release Tracking Number

3 13302

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 430 Boston Post Road
City/Town: Wayland Zip Code: 01778

B. This notice is being provided to the following party:

1. Name: Wayland Meadows Limited Partnership
2. Street Address: 145 Rosemary Street
City/Town: Needham Zip Code: 02494

C. This notice is being given to inform its recipient (the party listed in Section B):

- 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.
- 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.
- 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 430 Boston Post Road
City/Town: Wayland Zip Code: 01778

2. MCP phase of work during which the sampling will be/has been conducted:

- | | |
|---|---|
| <input type="checkbox"/> Immediate Response Action | <input type="checkbox"/> Phase III Feasibility Evaluation |
| <input type="checkbox"/> Release Abatement Measure | <input type="checkbox"/> Phase IV Remedy Implementation Plan |
| <input type="checkbox"/> Utility-related Abatement Measure | <input checked="" type="checkbox"/> Phase V/Remedy Operation Status |
| <input type="checkbox"/> Phase I Initial Site Investigation | <input type="checkbox"/> Post-Class C Operation, Maintenance and Monitoring |
| <input type="checkbox"/> Phase II Comprehensive Site Assessment | <input type="checkbox"/> Other _____ |
- (specify)

3. Description of property where sampling will be/has been conducted:

- residential commercial industrial school/playground Other _____
- (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Collection of groundwater samples from existing monitoring wells.

E. Contact information related to the party providing this notice:

Contact Name: Louis J. Burkhardt
Street Address: 880 Technology Park Drive, T-3033
City/Town: Billerica Zip Code: 01821
Telephone: (978) 436-8238 Email: louis_j_burkhardt@raytheon.com

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the “disposal site”.)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation under the Massachusetts Contingency Plan at a property on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at <http://www.mass.gov/dep/cleanup/oview.htm>. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See <http://mass.gov/dep/about/region/schedule.htm> if you would like to make an appointment to see these files. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.



ANALYTICAL REPORT

Lab Number:	L1104394
Client:	ERM Consulting & Engineering, Inc. 399 Boylston Street 6th Floor Boston, MA 02116
ATTN:	Jason Flattery
Phone:	(617) 646-7816
Project Name:	RAYTHEON WAYLAND
Project Number:	0131386.01
Report Date:	04/11/11

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: RAYTHEON WAYLAND
Project Number: 0131386.01

Lab Number: L1104394
Report Date: 04/11/11

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1104394-01	MW-263M-20110404-01	WAYLAND, MA	04/04/11 14:00
L1104394-02	MW-264M-20110404-01	WAYLAND, MA	04/04/11 15:20
L1104394-03	DUP-001-20110404-01	WAYLAND, MA	04/04/11 11:11

Project Name: RAYTHEON WAYLAND

Lab Number: L1104394

Project Number: 0131386.01

Report Date: 04/11/11

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: RAYTHEON WAYLAND
Project Number: 0131386.01

Lab Number: L1104394
Report Date: 04/11/11

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

MCP Related Narratives

Volatile Organics

In reference to question H:

The WG462116-2 LCSD recovery, associated with L1104394-01 through -03, is below the acceptance criteria for Dichlorodifluoromethane (65%); however, it has been identified as a "difficult" analyte and is within the 40-160% acceptance limits. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for this compound.

The continuing calibration standard, associated with L1104394-01 through -03, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

Project Name: RAYTHEON WAYLAND
Project Number: 0131386.01

Lab Number: L1104394
Report Date: 04/11/11

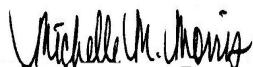
Case Narrative (continued)

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:



Michelle M. Morris

Title: Technical Director/Representative

Date: 04/11/11

ORGANICS

VOLATILES

Project Name: RAYTHEON WAYLAND**Lab Number:** L1104394**Project Number:** 0131386.01**Report Date:** 04/11/11**SAMPLE RESULTS**

Lab ID: L1104394-01
 Client ID: MW-263M-20110404-01
 Sample Location: WAYLAND, MA
 Matrix: Water
 Analytical Method: 97,8260B
 Analytical Date: 04/08/11 10:57
 Analyst: MM

Date Collected: 04/04/11 14:00
 Date Received: 04/04/11
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1

Project Name: RAYTHEON WAYLAND**Lab Number:** L1104394**Project Number:** 0131386.01**Report Date:** 04/11/11**SAMPLE RESULTS**

Lab ID: L1104394-01
 Client ID: MW-263M-20110404-01
 Sample Location: WAYLAND, MA

Date Collected: 04/04/11 14:00
 Date Received: 04/04/11
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
p-Chlorotoluene	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	104		70-130

Project Name: RAYTHEON WAYLAND**Lab Number:** L1104394**Project Number:** 0131386.01**Report Date:** 04/11/11**SAMPLE RESULTS**

Lab ID: L1104394-02
 Client ID: MW-264M-20110404-01
 Sample Location: WAYLAND, MA
 Matrix: Water
 Analytical Method: 97,8260B
 Analytical Date: 04/08/11 11:28
 Analyst: MM

Date Collected: 04/04/11 15:20
 Date Received: 04/04/11
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	7.0		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	37		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	28		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1

Project Name: RAYTHEON WAYLAND**Lab Number:** L1104394**Project Number:** 0131386.01**Report Date:** 04/11/11**SAMPLE RESULTS**

Lab ID: L1104394-02
 Client ID: MW-264M-20110404-01
 Sample Location: WAYLAND, MA

Date Collected: 04/04/11 15:20
 Date Received: 04/04/11
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
p-Chlorotoluene	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	105		70-130

Project Name: RAYTHEON WAYLAND**Lab Number:** L1104394**Project Number:** 0131386.01**Report Date:** 04/11/11**SAMPLE RESULTS**

Lab ID: L1104394-03
 Client ID: DUP-001-20110404-01
 Sample Location: WAYLAND, MA
 Matrix: Water
 Analytical Method: 97,8260B
 Analytical Date: 04/08/11 12:00
 Analyst: MM

Date Collected: 04/04/11 11:11
 Date Received: 04/04/11
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	7.2		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Vinyl chloride	1.0		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	37		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	28		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1

Project Name: RAYTHEON WAYLAND**Lab Number:** L1104394**Project Number:** 0131386.01**Report Date:** 04/11/11**SAMPLE RESULTS**

Lab ID: L1104394-03

Date Collected: 04/04/11 11:11

Client ID: DUP-001-20110404-01

Date Received: 04/04/11

Sample Location: WAYLAND, MA

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
p-Chlorotoluene	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	104		70-130

Project Name: RAYTHEON WAYLAND
Project Number: 0131386.01

Lab Number: L1104394
Report Date: 04/11/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/08/11 06:45
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG462116-3					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	1.0	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--

Project Name: RAYTHEON WAYLAND
Project Number: 0131386.01

Lab Number: L1104394
Report Date: 04/11/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/08/11 06:45
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG462116-3					
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
2-Butanone	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	5.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--

Project Name: RAYTHEON WAYLAND

Lab Number: L1104394

Project Number: 0131386.01

Report Date: 04/11/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260B
 Analytical Date: 04/08/11 06:45
 Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG462116-3					
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Ethyl ether	ND		ug/l	2.0	--
Isopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	104		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAYTHEON WAYLAND

Lab Number: L1104394

Project Number: 0131386.01

Report Date: 04/11/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG462116-1 WG462116-2								
Methylene chloride	103		100		70-130	3		20
1,1-Dichloroethane	100		96		70-130	4		20
Chloroform	104		100		70-130	4		20
Carbon tetrachloride	93		85		70-130	9		20
1,2-Dichloropropane	97		93		70-130	4		20
Dibromochloromethane	95		89		70-130	7		20
1,1,2-Trichloroethane	96		95		70-130	1		20
Tetrachloroethene	103		99		70-130	4		20
Chlorobenzene	92		90		70-130	2		20
Trichlorofluoromethane	120		110		70-130	9		20
1,2-Dichloroethane	105		100		70-130	5		20
1,1,1-Trichloroethane	96		90		70-130	6		20
Bromodichloromethane	99		92		70-130	7		20
trans-1,3-Dichloropropene	76		72		70-130	5		20
cis-1,3-Dichloropropene	82		77		70-130	6		20
1,1-Dichloropropene	100		95		70-130	5		20
Bromoform	96		87		70-130	10		20
1,1,2,2-Tetrachloroethane	101		99		70-130	2		20
Benzene	100		96		70-130	4		20
Toluene	95		92		70-130	3		20
Ethylbenzene	95		92		70-130	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAYTHEON WAYLAND

Lab Number: L1104394

Project Number: 0131386.01

Report Date: 04/11/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG462116-1 WG462116-2								
Chloromethane	81		78		70-130	4		20
Bromomethane	68	Q	54	Q	70-130	23	Q	20
Vinyl chloride	97		88		70-130	10		20
Chloroethane	102		98		70-130	4		20
1,1-Dichloroethene	105		97		70-130	8		20
trans-1,2-Dichloroethene	102		96		70-130	6		20
Trichloroethene	102		98		70-130	4		20
1,2-Dichlorobenzene	100		95		70-130	5		20
1,3-Dichlorobenzene	99		93		70-130	6		20
1,4-Dichlorobenzene	99		94		70-130	5		20
Methyl tert butyl ether	95		94		70-130	1		20
p/m-Xylene	96		93		70-130	3		20
o-Xylene	94		92		70-130	2		20
cis-1,2-Dichloroethene	107		102		70-130	5		20
Dibromomethane	102		100		70-130	2		20
1,2,3-Trichloropropane	100		97		70-130	3		20
Styrene	96		95		70-130	1		20
Dichlorodifluoromethane	73		65	Q	70-130	12		20
Acetone	98		97		70-130	1		20
Carbon disulfide	94		95		70-130	1		20
2-Butanone	87		91		70-130	4		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAYTHEON WAYLAND

Lab Number: L1104394

Project Number: 0131386.01

Report Date: 04/11/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG462116-1 WG462116-2								
4-Methyl-2-pentanone	89		92		70-130	3		20
2-Hexanone	82		87		70-130	6		20
Bromochloromethane	109		103		70-130	6		20
Tetrahydrofuran	95		94		70-130	1		20
2,2-Dichloropropane	87		82		70-130	6		20
1,2-Dibromoethane	96		96		70-130	0		20
1,3-Dichloropropane	98		96		70-130	2		20
1,1,1,2-Tetrachloroethane	88		81		70-130	8		20
Bromobenzene	105		99		70-130	6		20
n-Butylbenzene	89		86		70-130	3		20
sec-Butylbenzene	93		88		70-130	6		20
tert-Butylbenzene	93		90		70-130	3		20
o-Chlorotoluene	98		93		70-130	5		20
p-Chlorotoluene	99		95		70-130	4		20
1,2-Dibromo-3-chloropropane	89		80		70-130	11		20
Hexachlorobutadiene	91		84		70-130	8		20
Isopropylbenzene	92		89		70-130	3		20
p-Isopropyltoluene	96		92		70-130	4		20
Naphthalene	87		84		70-130	4		20
n-Propylbenzene	96		93		70-130	3		20
1,2,3-Trichlorobenzene	87		83		70-130	5		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAYTHEON WAYLAND

Lab Number: L1104394

Project Number: 0131386.01

Report Date: 04/11/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG462116-1 WG462116-2								
1,2,4-Trichlorobenzene	90		86		70-130	5		20
1,3,5-Trimethylbenzene	92		88		70-130	4		20
1,2,4-Trimethylbenzene	95		90		70-130	5		20
Ethyl ether	106		104		70-130	2		20
Isopropyl Ether	94		95		70-130	1		20
Ethyl-Tert-Butyl-Ether	88		87		70-130	1		20
Tertiary-Amyl Methyl Ether	89		90		70-130	1		20
1,4-Dioxane	114		116		70-130	2		20

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
1,2-Dichloroethane-d4	101		103		70-130
Toluene-d8	98		99		70-130
4-Bromofluorobenzene	99		99		70-130
Dibromofluoromethane	102		102		70-130

Project Name: RAYTHEON WAYLAND

Lab Number: L1104394

Project Number: 0131386.01

Report Date: 04/11/11

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal**Cooler**

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1104394-01A	Vial HCl preserved	A	N/A	3.0	Y	Absent	MCP-8260-10(14)
L1104394-01B	Vial HCl preserved	A	N/A	3.0	Y	Absent	MCP-8260-10(14)
L1104394-02A	Vial HCl preserved	A	N/A	3.0	Y	Absent	MCP-8260-10(14)
L1104394-02B	Vial HCl preserved	A	N/A	3.0	Y	Absent	MCP-8260-10(14)
L1104394-03A	Vial HCl preserved	A	N/A	3.0	Y	Absent	MCP-8260-10(14)
L1104394-03B	Vial HCl preserved	A	N/A	3.0	Y	Absent	MCP-8260-10(14)

*Values in parentheses indicate holding time in days

Project Name: RAYTHEON WAYLAND
Project Number: 0131386.01

Lab Number: L1104394
Report Date: 04/11/11

GLOSSARY

Acronyms

- EPA** - Environmental Protection Agency.
- LCS** - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
- LCS D** - Laboratory Control Sample Duplicate: Refer to LCS.
- MDL** - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- MS** - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
- MS D** - Matrix Spike Sample Duplicate: Refer to MS.
- NA** - Not Applicable.
- NC** - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
- NI** - Not Ignitable.
- RL** - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- RPD** - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when

Report Format: Data Usability Report



Project Name: RAYTHEON WAYLAND
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Data Qualifiers

the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Project Name: RAYTHEON WAYLAND
Project Number: 0131386.01

Lab Number: L1104394
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REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised February 23, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. **NELAP Accredited Solid Waste/Soil.**

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3,3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Maine Department of Human Services Certificate/Lab ID: 2009024.

Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 4500CI-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500CI-D, 4500CI-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.

Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

Non-Potable Water (Inorganic Parameters: (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LACHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500CI-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270C-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 7196A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 8270C-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. *NELAP Accredited.*

Drinking Water (Organic Parameters: EPA 524.2)

Non-Potable Water (Inorganic Parameters: EPA 1312. Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B,

3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. *NELAP Accredited via NY-DOH.*

Refer to MA-DEP Certificate for Potable and Non-Potable Water.

Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commission on Environmental Quality Certificate/Lab ID: T104704476-09-1. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S²⁻ D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Department of Defense Certificate/Lab ID: L2217.

Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methyl naphthalenes, Total Dimethyl naphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.



CHAIN OF CUSTODY

PAGE 1 OF 1

WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: ERM

Address: 399 Bowdoin Street

6th Floor Boston, MA

Phone: (617) 644-7800

Fax: (617) 247-6447

Email: jason.flattery@erm.com

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All **CAW** methods for inorganic analyses require MS every 20 soil samples)

Project Information

Project Name: Raytheon Wayland

Project Location: Wayland, MA

Project #: 6131386.01

Project Manager: Jason Flattery

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due: 4/11/11 Time:

Date Rec'd in Lab: 4/11/11

Report Information - Data Deliverables

FAX EMAIL

ADEX Add'l Deliverables

Regulatory Requirements/Report Limits

State/Fed Program MA MCP Criteria GM-7

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

Yes No Are MCP Analytical Methods Required?
 Yes No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
 Yes No Are CT RCP (Reasonable Confidence Protocols) Required?

ALPHA Job #: 21104394

Billing Information

Same as Client Info PO #:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials
		Date	Time		

<u>0984</u>	<u>1 MW-203M-20110404-01</u>	<u>4/4/11</u>	<u>1400</u>	<u>GW</u>	<u>SMC 2</u>
	<u>2 MW-204M-20110404-01</u>		<u>1520</u>		<u>SMC 2</u>
	<u>3 DVP-001-20110404-01</u>		<u>1111</u>		<u>SMC 2</u>

ANALYSIS	Criteria
<u>CVOCs (80216 by 8260)</u>	<u>GM-7</u>

SAMPLE HANDLING

- Filtration _____
- Done
- Not needed
- Lab to do
- Preservation
- Lab to do

Sample Specific Comments

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MANMCP or CT RCP?

Relinquished By: <u>Audrey Vining</u>	Date/Time: <u>4/11/11 1545</u>
Received By: <u>Sam Warner</u>	Date/Time: <u>4/11/11 1630</u>

Container Type	<u>V</u>
Preservative	<u>B</u>

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104394

Instrument ID: Quimby.i Calibration Date: 08-APR-2011 Time: 05:41

Lab File ID: 0408A03 Init. Calib. Date(s): 07-MAR-2 07-MAR-2

Sample No: 8260 CCAL Init. Calib. Times : 08:32 12:13

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
dichlorodifluoromethane	.34924	.25614	.1	27	20	F
chloromethane	.35628	.28958	.1	19	20	
vinyl chloride	.30181	.29149	.1	3	20	
bromomethane	.22898	.15543	.1	32	20	F
chloroethane	.20794	.21332	.1	-3	20	
trichlorofluoromethane	.42568	.50993	.1	-20	20	
ethyl ether	.12007	.12756	.05	-6	20	
acrolie	.02445	.02327	.05	5	20	F
freon-113	.29194	.25061	.1	14	20	
acetone	100	98.083	.1	2	20	
1,1,-dichloroethene	.30271	.3177	.1	-5	20	
tert-butyl alcohol	.00951	.00756	.05	20	20	F
iodomethane	.50617	.40107	.05	21	20	F
methylene chloride	.30372	.31396	.1	-3	20	
carbon disulfide	.91586	.86178	.1	6	20	
acrylonitrile	.0487	.04675	.05	4	20	F
methyl tert butyl ether	.51963	.4952	.1	5	20	
Halothane	.25477	.25387	.05	0	20	
trans-1,2-dichloroethene	.34461	.34998	.1	-2	20	
Diisopropyl Ether	.81846	.77081	.05	6	20	
vinyl acetate	.38582	.36843	.05	5	20	
1,1-dichloroethane	.58497	.58479	.2	0	20	
Ethyl-Tert-Butyl-Ether	.7021	.62012	.05	12	20	
2-butanone	.05505	.04775	.1	13	20	F
2,2-dichloropropane	.38987	.34004	.05	13	20	
ethyl acetate	.11173	.09457	.05	15	20	
cis-1,2-dichloroethene	.36598	.39127	.1	-7	20	
chloroform	.55517	.57489	.2	-4	20	
bromochloromethane	.13826	.15054	.05	-9	20	
tetrahydrofuran	100	95.023	.05	5	20	
1,1,1-trichloroethane	.50175	.48178	.1	4	20	
1,1-dichloropropene	.47777	.48011	.05	0	20	
carbontetrachloride	.40299	.37583	.1	7	20	
Tertiary-Amyl Methyl Ether	.59124	.52414	.05	11	20	
1,2-dichloroethane	.29658	.31265	.1	-5	20	
benzene	1.4222	1.4243	.5	0	20	
trichloroethene	.35492	.36277	.2	-2	20	
1,2-dichloropropane	.31236	.30168	.1	3	20	

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104394

Instrument ID: Quimby.i Calibration Date: 08-APR-2011 Time: 05:41

Lab File ID: 0408A03 Init. Calib. Date(s): 07-MAR-2 07-MAR-2

Sample No: 8260 CCAL Init. Calib. Times : 08:32 12:13

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
=====	=====	=====	=====	=====	=====	
bromodichloromethane	.34843	.3437	.2	1	20	
1,4-dioxane	.00121	.00139	.05	-14	20	F
dibromomethane	.12614	.12872	.05	-2	20	
2-chloroethylvinyl ether	.10568	.07853	.05	26	20	F
4-methyl-2-pentanone	.05144	.04568	.1	11	20	F
cis-1,3-dichloropropene	.449	.36655	.2	18	20	
toluene	1.1887	1.1329	.4	5	20	
trans-1,3-dichloropropene	.40626	.30863	.1	24	20	F
1,1,2-trichloroethane	.18806	.18013	.1	4	20	
2-hexanone	.10447	.08562	.1	18	20	
1,3-dichloropropane	.41055	.40068	.05	2	20	
tetrachloroethene	.54918	.56541	.2	-3	20	
chlorodibromomethane	.26275	.25032	.1	5	20	
1,2-dibromoethane	.21528	.20705	.1	4	20	
chlorobenzene	1.3469	1.2374	.5	8	20	
1,1,1,2-tetrachloroethane	.39146	.34261	.05	12	20	
ethyl benzene	2.4104	2.2863	.1	5	20	
p/m xylene	.97612	.93241	.1	4	20	
o xylene	.96041	.90296	.3	6	20	
styrene	1.5385	1.4767	.31	4	20	
isopropylbenzene	2.4862	2.2873	.1	8	20	
trans-1,4-dichloro-2-butene	.03888	.03802	.05	2	20	F
bromoform	.23103	.22064	.1	5	20	
1,1,2,2,-tetrachloroethane	.38882	.39227	.3	-1	20	
1,2,3-trichloropropane	.302	.30305	.05	0	20	
n-propylbenzene	4.2789	4.1235	.05	4	20	
bromobenzene	.85391	.89606	.05	-5	20	
4-ethyltoluene	2.1733	1.8324	.05	16	20	
1,3,5-trimethylbenzene	3.1161	2.8671	.05	8	20	
2-chlorotoluene	2.8216	2.7558	.05	2	20	
4-chlorotoluene	2.6385	2.6115	.05	1	20	
tert-butylbenzene	2.7401	2.5567	.05	7	20	
1,2,4-trimethylbenzene	3.1459	2.9953	.05	5	20	
sec-butylbenzene	3.7202	3.4621	.05	7	20	
p-isopropyltoluene	3.1690	3.0305	.05	4	20	
1,3-dichlorobenzene	1.7564	1.7311	.6	1	20	
1,4-dichlorobenzene	1.7757	1.7649	.5	1	20	
n-butylbenzene	3.0962	2.7697	.05	11	20	

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104394

Instrument ID: Quimby.i Calibration Date: 08-APR-2011 Time: 05:41

Lab File ID: 0408A03 Init. Calib. Date(s): 07-MAR-2 07-MAR-2

Sample No: 8260 CCAL Init. Calib. Times : 08:32 12:13

Compound	RRF	RRF	MIN RRF	%D	MAX %D
1,2,4,5-tetramethylbenzene	1.0900	.91535	.05	16	20
1,2-dichlorobenzene	1.4995	1.5018	.4	0	20
p-diethylbenzene	1.5484	1.3278	.05	14	20
1,2-dibromo-3-chloropropane	.05659	.05053	.05	11	20
1,3,5-trichlorobenzene	1.0666	.91426	.01	14	30
1,2,4-trichlorobenzene	.83258	.7538	.2	9	20
hexachlorobutadiene	.4051	.3705	.05	9	20
naphthalene	1.3212	1.1451	.05	13	20
1,2,3-trichlorobenzene	.61394	.53533	.05	13	20
dibromofluoromethane	.23183	.2374	.05	-2	20
1,2-dichloroethane-d4	.19112	.1921	.05	-1	20
toluene-d8	1.2966	1.2670	.05	2	20
4-bromofluorobenzene	.84277	.83639	.05	1	20



ANALYTICAL REPORT

Lab Number:	L1104711
Client:	ERM Consulting & Engineering, Inc. 399 Boylston Street 6th Floor Boston, MA 02116
ATTN:	Jason Flattery
Phone:	(617) 646-7816
Project Name:	RAYTHEON-WAYLAND
Project Number:	0131386.01
Report Date:	04/15/11

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY NELAC (11148), CT (PH-0574), NH (2003), NJ (MA935), RI (LAO00065), ME (MA0086), PA (Registration #68-03671), USDA (Permit #S-72578), US Army Corps of Engineers, Naval FESC.

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: RAYTHEON-WAYLAND
Project Number: 0131386.01

Lab Number: L1104711
Report Date: 04/15/11

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1104711-01	DEP-19M-20110407-01	WAYLAND, MA	04/07/11 12:25

Project Name: RAYTHEON-WAYLAND

Lab Number: L1104711

Project Number: 0131386.01

Report Date: 04/15/11

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: RAYTHEON-WAYLAND
Project Number: 0131386.01

Lab Number: L1104711
Report Date: 04/15/11

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEX data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

MCP Related Narratives

Volatile Organics

In reference to question H:

The WG463009-1/-2 LCS/LCSD recoveries, associated with L1104711-01, are below the acceptance criteria for Chloromethane (54%/56%) and Dichlorodifluoromethane (52%/46%); however, they have been identified as "difficult" analytes and are within the 40-160% acceptance limits. The results of the associated sample are reported; however, all results are considered to have a potentially low bias for this compound.


The continuing calibration standard, associated with L1104711-01, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Michelle M. Morris

Title: Technical Director/Representative

Date: 04/15/11

ORGANICS

VOLATILES

Project Name: RAYTHEON-WAYLAND**Lab Number:** L1104711**Project Number:** 0131386.01**Report Date:** 04/15/11**SAMPLE RESULTS**

Lab ID: L1104711-01
Client ID: DEP-19M-20110407-01
Sample Location: WAYLAND, MA
Matrix: Water
Analytical Method: 97,8260B
Analytical Date: 04/14/11 18:31
Analyst: PD

Date Collected: 04/07/11 12:25
Date Received: 04/08/11
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	2.7		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1

Project Name: RAYTHEON-WAYLAND**Lab Number:** L1104711**Project Number:** 0131386.01**Report Date:** 04/15/11**SAMPLE RESULTS**

Lab ID: L1104711-01
 Client ID: DEP-19M-20110407-01
 Sample Location: WAYLAND, MA

Date Collected: 04/07/11 12:25
 Date Received: 04/08/11
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
p-Chlorotoluene	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	85		70-130
Dibromofluoromethane	105		70-130

Project Name: RAYTHEON-WAYLAND

Lab Number: L1104711

Project Number: 0131386.01

Report Date: 04/15/11

Method Blank Analysis Batch Quality Control

Analytical Method: 97,8260B
 Analytical Date: 04/14/11 09:12
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG463009-3					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	1.0	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--

Project Name: RAYTHEON-WAYLAND
Project Number: 0131386.01

Lab Number: L1104711
Report Date: 04/15/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260B
Analytical Date: 04/14/11 09:12
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG463009-3					
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
2-Butanone	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	5.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--

Project Name: RAYTHEON-WAYLAND

Lab Number: L1104711

Project Number: 0131386.01

Report Date: 04/15/11

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260B
 Analytical Date: 04/14/11 09:12
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG463009-3					
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Ethyl ether	ND		ug/l	2.0	--
Isopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	85		70-130
Dibromofluoromethane	104		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAYTHEON-WAYLAND

Lab Number: L1104711

Project Number: 0131386.01

Report Date: 04/15/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG463009-1 WG463009-2								
Methylene chloride	101		90		70-130	12		20
1,1-Dichloroethane	100		88		70-130	13		20
Chloroform	105		94		70-130	11		20
Carbon tetrachloride	103		95		70-130	8		20
1,2-Dichloropropane	103		92		70-130	11		20
Dibromochloromethane	104		95		70-130	9		20
1,1,2-Trichloroethane	98		92		70-130	6		20
Tetrachloroethene	112		100		70-130	11		20
Chlorobenzene	103		92		70-130	11		20
Trichlorofluoromethane	125		110		70-130	13		20
1,2-Dichloroethane	108		98		70-130	10		20
1,1,1-Trichloroethane	93		85		70-130	9		20
Bromodichloromethane	103		91		70-130	12		20
trans-1,3-Dichloropropene	84		76		70-130	10		20
cis-1,3-Dichloropropene	89		79		70-130	12		20
1,1-Dichloropropene	98		85		70-130	14		20
Bromoform	103		97		70-130	6		20
1,1,2,2-Tetrachloroethane	87		82		70-130	6		20
Benzene	102		91		70-130	11		20
Toluene	97		88		70-130	10		20
Ethylbenzene	106		96		70-130	10		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAYTHEON-WAYLAND

Lab Number: L1104711

Project Number: 0131386.01

Report Date: 04/15/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG463009-1 WG463009-2								
Chloromethane	54	Q	56	Q	70-130	4		20
Bromomethane	60	Q	63	Q	70-130	5		20
Vinyl chloride	116		106		70-130	9		20
Chloroethane	110		100		70-130	10		20
1,1-Dichloroethene	91		83		70-130	9		20
trans-1,2-Dichloroethene	96		85		70-130	12		20
Trichloroethene	103		91		70-130	12		20
1,2-Dichlorobenzene	104		95		70-130	9		20
1,3-Dichlorobenzene	104		94		70-130	10		20
1,4-Dichlorobenzene	107		97		70-130	10		20
Methyl tert butyl ether	84		82		70-130	2		20
p/m-Xylene	110		100		70-130	10		20
o-Xylene	110		103		70-130	7		20
cis-1,2-Dichloroethene	106		94		70-130	12		20
Dibromomethane	108		99		70-130	9		20
1,2,3-Trichloropropane	85		79		70-130	7		20
Styrene	114		105		70-130	8		20
Dichlorodifluoromethane	52	Q	46	Q	70-130	12		20
Acetone	97		96		70-130	1		20
Carbon disulfide	83		76		70-130	9		20
2-Butanone	94		92		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAYTHEON-WAYLAND

Lab Number: L1104711

Project Number: 0131386.01

Report Date: 04/15/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG463009-1 WG463009-2								
4-Methyl-2-pentanone	87		86		70-130	1		20
2-Hexanone	88		89		70-130	1		20
Bromochloromethane	116		102		70-130	13		20
Tetrahydrofuran	101		101		70-130	0		20
2,2-Dichloropropane	99		93		70-130	6		20
1,2-Dibromoethane	93		86		70-130	8		20
1,3-Dichloropropane	98		90		70-130	9		20
1,1,1,2-Tetrachloroethane	108		96		70-130	12		20
Bromobenzene	103		92		70-130	11		20
n-Butylbenzene	105		92		70-130	13		20
sec-Butylbenzene	97		85		70-130	13		20
tert-Butylbenzene	98		87		70-130	12		20
o-Chlorotoluene	96		84		70-130	13		20
p-Chlorotoluene	95		86		70-130	10		20
1,2-Dibromo-3-chloropropane	119		114		70-130	4		20
Hexachlorobutadiene	119		100		70-130	17		20
Isopropylbenzene	107		97		70-130	10		20
p-Isopropyltoluene	107		94		70-130	13		20
Naphthalene	116		110		70-130	5		20
n-Propylbenzene	96		85		70-130	12		20
1,2,3-Trichlorobenzene	137	Q	126		70-130	8		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: RAYTHEON-WAYLAND

Lab Number: L1104711

Project Number: 0131386.01

Report Date: 04/15/11

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG463009-1 WG463009-2								
1,2,4-Trichlorobenzene	130		116		70-130	11		20
1,3,5-Trimethylbenzene	103		90		70-130	13		20
1,2,4-Trimethylbenzene	106		94		70-130	12		20
Ethyl ether	92		90		70-130	2		20
Isopropyl Ether	89		87		70-130	2		20
Ethyl-Tert-Butyl-Ether	93		87		70-130	7		20
Tertiary-Amyl Methyl Ether	91		89		70-130	2		20
1,4-Dioxane	105		108		70-130	3		20

Surrogate	LCS		LCSD		Acceptance Criteria
	%Recovery	Qual	%Recovery	Qual	
1,2-Dichloroethane-d4	104		107		70-130
Toluene-d8	100		99		70-130
4-Bromofluorobenzene	85		84		70-130
Dibromofluoromethane	107		105		70-130

Project Name: RAYTHEON-WAYLAND**Lab Number:** L1104711**Project Number:** 0131386.01**Report Date:** 04/15/11**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal**Cooler**

A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1104711-01A	Vial HCl preserved	A	N/A	2	Y	Absent	MCP-8260-10(14)
L1104711-01B	Vial HCl preserved	A	N/A	2	Y	Absent	MCP-8260-10(14)

*Values in parentheses indicate holding time in days

Project Name: RAYTHEON-WAYLAND
Project Number: 0131386.01

Lab Number: L1104711
Report Date: 04/15/11

GLOSSARY

Acronyms

- EPA** - Environmental Protection Agency.
- LCS** - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
- LCS D** - Laboratory Control Sample Duplicate: Refer to LCS.
- MDL** - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- MS** - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
- MS D** - Matrix Spike Sample Duplicate: Refer to MS.
- NA** - Not Applicable.
- NC** - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
- NI** - Not Ignitable.
- RL** - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
- RPD** - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when

Report Format: Data Usability Report



Project Name: RAYTHEON-WAYLAND
Project Number: 0131386.01

Lab Number: L1104711
Report Date: 04/15/11

Data Qualifiers

the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Project Name: RAYTHEON-WAYLAND
Project Number: 0131386.01

Lab Number: L1104711
Report Date: 04/15/11

REFERENCES

- 97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certificate/Approval Program Summary

Last revised February 23, 2011 - Westboro Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0574. **NELAP Accredited Solid Waste/Soil.**

Drinking Water (Inorganic Parameters: Color, pH, Turbidity, Conductivity, Alkalinity, Chloride, Free Residual Chlorine, Fluoride, Calcium Hardness, Sulfate, Nitrate, Nitrite, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Dissolved Solids, Total Organic Carbon, Total Cyanide, Perchlorate. Organic Parameters: Volatile Organics 524.2, Total Trihalomethanes 524.2, 1,2-Dibromo-3-chloropropane (DBCP), Ethylene Dibromide (EDB), 1,4-Dioxane (Mod 8270). Microbiology Parameters: Total Coliform-MF mEndo (SM9222B), Total Coliform – Colilert (SM9223 P/A), E. Coli. – Colilert (SM9223 P/A), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D))

Wastewater/Non-Potable Water (Inorganic Parameters: Color, pH, Conductivity, Acidity, Alkalinity, Chloride, Total Residual Chlorine, Fluoride, Total Hardness, Silica, Sulfate, Sulfide, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, O-Phosphate, Total Phosphorus, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Dissolved Solids, Total Suspended Solids (non-filterable), BOD, CBOD, COD, TOC, Total Cyanide, Phenolics, Foaming Agents (MBAS), Bromide, Oil and Grease. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Acid Extractables (Phenols), Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, Polynuclear Aromatic Hydrocarbons, Haloethers, Chlorinated Hydrocarbons, Volatile Organics, TPH (HEM/SGT), Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH. Microbiology Parameters: Total Coliform – MF mEndo (SM9222B), Total Coliform – MTF (SM9221B), HPC – Pour Plate (SM9215B), Fecal Coliform – MF m-FC (SM9222D), Fecal Coliform – A-1 Broth (SM9221E).)

Solid Waste/Soil (Inorganic Parameters: pH, Sulfide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Total Cyanide, Ignitability, Phenolics, Corrosivity, TCLP Leach (1311), SPLP Leach (1312 metals only), Reactivity. Organic Parameters: PCBs, PCBs in Oil, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Extractable Petroleum Hydrocarbons (ETPH), MA-EPH, MA-VPH, Dicamba, 2,4-D, 2,4,5-T, 2,4,5-TP(Silvex), Volatile Organics, Acid Extractables (Phenols), 3,3'-Dichlorobenzidine, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Maine Department of Human Services Certificate/Lab ID: 2009024.

Drinking Water (Inorganic Parameters: SM9215B, 9222D, 9223B, EPA 180.1, 353.2, SM2130B, 2320B, 4500CI-D, 4500CN-C, 4500CN-E, 4500F-C, 4500H+B, 4500NO3-F, EPA 200.7, EPA 200.8, 245.1, EPA 300.0. Organic Parameters: 504.1, 524.2.)

Wastewater/Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664A, 350.1, 351.1, 353.2, 410.4, 420.1, SM2320B, 2510B, 2540C, 2540D, 426C, 4500CI-D, 4500CI-E, 4500CN-C, 4500CN-E, 4500F-B, 4500F-C, 4500H+B, 4500Norg-B, 4500Norg-C, 4500NH3-B, 4500NH3-G, 4500NH3-H, 4500NO3-F, 4500P-B, 4500P-E, 5210B, 5220D, 5310C, EPA 200.7, 200.8, 245.1. Organic Parameters: 608, 624, ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Solid Waste/Soil (Organic Parameters: ME-DRO, ME-GRO, MA-EPH, MA-VPH.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA086.

Drinking Water (Inorganic Parameters: (EPA 200.8 for: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl) (EPA 200.7 for: Ba,Be,Ca,Cd,Cr,Cu,Na,Ni) 245.1, (300.0 for: Nitrate-N, Fluoride, Sulfate); (EPA 353.2 for: Nitrate-N, Nitrite-N); (SM4500NO3-F for: Nitrate-N and Nitrite-N); 4500F-C, 4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, 2320B, SM2540C, SM4500H-B. Organic Parameters: (EPA 524.2 for: Trihalomethanes, Volatile Organics); (504.1 for: 1,2-Dibromoethane, 1,2-Dibromo-3-Chloropropane), EPA 332. Microbiology Parameters: SM9215B; ENZ. SUB. SM9223; ColilertQT SM9223B; MF-SM9222D.)

Non-Potable Water (Inorganic Parameters:, (EPA 200.8 for: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn); (EPA 200.7 for: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl, V,Zn); 245.1, SM4500H,B, EPA 120.1, SM2510B, 2540C, 2340B, 2320B, 4500CL-E, 4500F-BC, 426C, SM4500NH3-BH, (EPA 350.1 for: Ammonia-N), LCHAT 10-107-06-1-B for Ammonia-N, SM4500NO3-F, 353.2 for Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, 4500P-B,E, 5220D, EPA 410.4, SM 5210B, 5310C, 4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

Organic Parameters: (EPA 624 for Volatile Halocarbons, Volatile Aromatics),(608 for: Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, PCBs-Water), (EPA 625 for SVOC Acid Extractables and SVOC Base/Neutral Extractables), 600/4-81-045-PCB-Oil. Microbiology Parameters: (ColilertQT SM9223B;Enterolert-QT: SM9222D-MF.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 200307. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM 9222B, 9223B, 9215B, EPA 200.7, 200.8, 245.2, 300.0, SM4500CN-E, 4500H+B, 4500NO3-F, 2320B, 2510B, 2540C, 4500F-C, 5310C, 2120B, EPA 332.0. Organic Parameters: 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM9222D, 9221B, 9222B, 9221E-EC, EPA 3005A, 200.7, 200.8, 245.1, 245.2, SW-846 6010B, 6020, 7196A, 7470A, SM3500-CR-D, EPA 120.1, 300.0, 350.1, 351.1, 353.2, 410.4, 420.1, 1664A, SW-846 9010, 9030, 9040B, 9050A, SM426C, SM2120B, 2310B, 2320B, 2540B, 2540D, 4500H+B, 4500CL-E, 4500CN-E, 4500NH3-H, 4500NO3-F, 4500NO2-B, 4500P-E, 4500-S2-D, 5210B, 5220D, 2510B, 2540C, 4500F-C, 5310C, 5540C, LACHAT 10-204-00-1-A, LACHAT 10-107-06-2-D. Organic Parameters: SW-846 3510C, 5030B, 8260B, 8270C, 8330, EPA 624, 625, 608, SW-846 8082, 8081A, 8151A.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6010B, 7196A, 7471A, 1010, 1030, 9010, 9012A, 9014, 9030B, 9040B, 9045C, 9050C, 9065,1311, 1312, 3005A, 3050B. Organic Parameters: SW-846 3540C, 3546, 3580A, 5030B, 5035, 8260B, 8270C, 8330, 8151A, 8015B, 8082, 8081A.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA935. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM9222B, 9221E, 9223B, 9215B, 4500CN-CE, 4500NO3-F, 4500F-C, EPA 300.0, 200.7, 200.8, 245.2, 2540C, SM2120B, 2320B, 2510B, 5310C, SM4500H-B. Organic Parameters: EPA 332, 504.1, 524.2.)

Non-Potable Water (Inorganic Parameters: SM5210B, EPA 410.4, SM5220D, 4500CI-E, EPA 300.0, SM2120B, SM4500F-BC, EPA 200.7, 351.1, LACHAT 10-107-06-2-D, EPA 353.2, SM4500NO3-F, 4500NO2-B, EPA 1664A, SM5310B, C or D, 4500-PE, EPA 420.1, SM510ABC, SM4500P-B5+E, 2540B, 2540C, 2540D, EPA 120.1, SM2510B, SM15 426C, 9222D, 9221B, 9221C, 9221E, 9222B, 9215B, 2310B, 2320B, 4500NH3-H, 4500-S D, EPA 350.1, 350.2, SW-846 1312, 6020, 7470A, 5540C, 4500H-B, EPA 200.8, SM3500Cr-D, 4500CN-CE, EPA 245.1, 245.2, SW-846 9040B, 3005A, EPA 6010B, 7196A, SW-846 9010B, 9030B. Organic Parameters: SW-846 8260B, 8270C, 8270C-SIM, 3510C, EPA 608, 624, 625, SW-846 3630C, 5030B, 8081A, 8082, 8151A, 8330, NJ OQA-QAM-025 Rev.7, NJ EPH.)

Solid & Chemical Materials (Inorganic Parameters: SW-846, 6010B, 7196A, 9010B, 9030B, 1010, 1030, 1311, 1312, 3005A, 3050B, 7471A, 9014, 9012A, 9040B, 9045C, 9050A, 9065. Organic Parameters: SW-846 8015B, 8081A, 8082, 8151A, 8330, 8260B, 8270C, 8270C-SIM, 3540C, 3545, 3546, 3550B, 3580A, 3630C, 5030B, 5035L, 5035H, NJ OQA-QAM-025 Rev.7, NJ EPH.)

New York Department of Health Certificate/Lab ID: 11148. *NELAP Accredited.*

Drinking Water (Inorganic Parameters: SM9223B, 9222B, 9215B, EPA 200.8, 200.7, 245.2, SM5310C, EPA 332.0, SM2320B, EPA 300.0, SM2120B, 4500CN-E, 4500F-C, 4500H-B, 4500NO3-F, 2540C, SM 2510B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: SM9221E, 9222D, 9221B, 9222B, 9215B, 5210B, 5310C, EPA 410.4, SM5220D, 2310B-4a, 2320B, EPA 200.7, 300.0, SM4500CL-E, 4500F-C, SM15 426C, EPA 350.1, SM4500NH3-BH, EPA 351.1, LACHAT 10-107-06-2, EPA 353.2, LACHAT 10-107-04-1-C, SM4500-NO3-F, 4500-NO2-B, 4500P-E, 2540C, 2540B, 2540D, EPA 200.8, EPA 6010B, 6020, EPA 7196A, SM3500Cr-D, EPA 245.1, 245.2, 7470A, SM2120B, LACHAT 10-204-00-1-A, EPA 9040B, SM4500-HB, EPA 1664A, EPA 420.1, SM14 510C, EPA 120.1, SM2510B, SM4500S-D, SM5540C, EPA 3005A, 9010B, 9030B. Organic Parameters: EPA 624, 8260B, 8270C, 625, 608, 8081A, 8151A, 8330, 8082, EPA 3510C, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: 1010, 1030, EPA 6010B, 7196A, 7471A, 9012A, 9014, 9040B, 9045C, 9065, 9050, EPA 1311, 1312, 3005A, 3050B, 9010B, 9030B. Organic Parameters: EPA 8260B, 8270C, 8015B, 8081A, 8151A, 8330, 8082, 3540C, 3545, 3546, 3580, 5030B, 5035.)

North Carolina Department of the Environment and Natural Resources Certificate/Lab ID : 666. Organic Parameters: MA-EPH, MA-VPH.

Pennsylvania Department of Environmental Protection Certificate/Lab ID : 68-03671. *NELAP Accredited.*

Drinking Water (Organic Parameters: EPA 524.2)

Non-Potable Water (Inorganic Parameters: EPA 1312. Organic Parameters: EPA 3510C, 5030B, 625, 624, 608, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Solid & Hazardous Waste (Inorganic Parameters: EPA 350.1, 1010, 1030, 1311, 1312, 3050B, 6010B, 7196A, 7471A, 9010B, 9012A, 9014, 9040B, 9045C, 9050, 9065, SM 4500NH3-H. Organic Parameters: 3540C, 3545, 3546, 3550B,

3580A, 3630C, 5035, 8015B, 8081A, 8082, 8151A, 8260B, 8270C, 8330)

Rhode Island Department of Health Certificate/Lab ID: LAO00065. *NELAP Accredited via NY-DOH.*

Refer to MA-DEP Certificate for Potable and Non-Potable Water.

Refer to NJ-DEP Certificate for Potable and Non-Potable Water.

Texas Commission on Environmental Quality Certificate/Lab ID: T104704476-09-1. *NELAP Accredited.*

Non-Potable Water (Inorganic Parameters: EPA 120.1, 1664, 200.7, 200.8, 245.1, 245.2, 300.0, 350.1, 351.1, 353.2, 376.2, 410.4, 420.1, 6010, 6020, 7196, 7470, 9040, SM 2120B, 2310B, 2320B, 2510B, 2540B, 2540C, 2540D, 426C, 4500CL-E, 4500CN-E, 4500F-C, 4500H+B, 4500NH3-H, 4500NO2B, 4500P-E, 4500 S²⁻ D, 510C, 5210B, 5220D, 5310C, 5540C. Organic Parameters: EPA 608, 624, 625, 8081, 8082, 8151, 8260, 8270, 8330.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312, 9012, 9014, 9040, 9045, 9050, 9065.)

Department of Defense Certificate/Lab ID: L2217.

Drinking Water (Inorganic Parameters: SM 4500H-B. Organic Parameters: EPA 524.2, 504.1.)

Non-Potable Water (Inorganic Parameters: EPA 200.7, 200.8, 6010B, 6020, 245.1, 245.2, 7470A, 9040B, 300.0, 332.0, 6860, 353.2, 410.4, 9060, 1664A, SM 4500CN-E, 4500H-B, 4500NO3-F, 5220D, 5310C, 2320B, 2540C, 3005A, 3015, 9010B, 9056. Organic Parameters: EPA 8260B, 8270C, 8330A, 625, 8082, 8081A, 3510C, 5030B, MassDEP EPH, MassDEP VPH.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 200.7, 6010B, 7471A, 9010, 9012A, 6860, 1311, 1312, 3050B, 7196A, 9010B, 3500-CR-D, 4500CN-CE, 2540G, Organic Parameters: EPA 8260B, 8270C, 8330A/B-prep, 8082, 8081A, 3540C, 3546, 3580A, 5035A, MassDEP EPH, MassDEP VPH.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **EPA 8260B:** Freon-113, 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene. **EPA 8330A:** PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT. **EPA 8270C:** Methyl naphthalene, Dimethyl naphthalene, Total Methyl naphthalenes, Total Dimethyl naphthalenes, 1,4-Diphenylhydrazine (Azobenzene). **EPA 625:** 4-Chloroaniline. **EPA 350.1** for Ammonia in a Soil matrix.



WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANSFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Project Name: Raytheon Wayland

Project Location: Wayland, MA

Project #: 0131386.01

Project Manager: Jason Flattery

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due: 4/16/11 Time:

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed. (Note: All CAM methods for Inorganic analyses require MS every 20 soil samples)

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 4/18/11

Report Information - Data Deliverables

FAX EMAIL

MADEX Add'l Deliverables

Regulatory Requirements/Report Limits

State/Fed Program MA MCP Criteria GW-1

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

Billing Information

Same as Client info PO #:

ALPHA Job #: L104711

Project Information

Project Name: Raytheon Wayland

Project Location: Wayland, MA

Project #: 0131386.01

Project Manager: Jason Flattery

ALPHA Quote #:

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)

Date Due: 4/16/11 Time:

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed. (Note: All CAM methods for Inorganic analyses require MS every 20 soil samples)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials
		Date	Time		
4711-01	DER-19M-20110407-01	4/7/11	1225	GW	LSM

Sample ID	ANALYSIS		SAMPLE HANDLING
	CVOCs (EQUIC by 82600)	Other	
4711-01	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Filtration <input type="checkbox"/> Done <input type="checkbox"/> Not needed <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do (Please specify below) Sample Specific Comments

TOTAL # BOTTLES 2

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT

MAMCP or CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
<u>Angela V...</u>	<u>4/3/11 0900</u>	<u>W...</u>	<u>4/8/11 0900</u>
<u>W...</u>	<u>4/8/11 0900</u>	<u>W...</u>	<u>4/8/11 0900</u>

Please print clearly, legibly, and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104711

Instrument ID: Elaine.i Calibration Date: 14-APR-2011 Time: 08:03

Lab File ID: 0414A01 Init. Calib. Date(s): 02-MAR-2 02-MAR-2

Sample No: 8260 CCAL Init. Calib. Times : 11:13 14:41

Compound	RRF	RRF	MIN RRF	%D	MAX %D	
=====	=====	=====	=====	=====	=====	
dichlorodifluoromethane	.28289	.14629	.05	48	20	F
chloromethane	.24925	.13346	.05	46	20	F
vinyl chloride	.13187	.15271	.05	-16	20	
bromomethane	100	60.237	.05	40	20	F
chloroethane	.12647	.13954	.05	-10	20	
trichlorofluoromethane	.31877	.39807	.05	-25	20	F
ethyl ether	.14644	.13548	.05	7	20	
acetone	100	97.064	.05	3	20	
1,1,-dichloroethene	.22801	.20833	.05	9	20	
methylene chloride	.26678	.26881	.05	-1	20	
carbon disulfide	.73893	.61242	.05	17	20	
methyl tert butyl ether	.67115	.56241	.05	16	20	
trans-1,2-dichloroethene	.25462	.24363	.05	4	20	
Diisopropyl Ether	1.0026	.88843	.05	11	20	
1,1-dichloroethane	.47793	.47948	.05	0	20	
Ethyl-Tert-Butyl-Ether	.76715	.71204	.05	7	20	
2-butanone	.11017	.10386	.05	6	20	
2,2-dichloropropane	100	98.956	.05	1	20	
cis-1,2-dichloroethene	.27823	.29395	.05	-6	20	
chloroform	.45304	.477	.05	-5	20	
bromochloromethane	.10531	.12213	.05	-16	20	
tetrahydrofuran	.06674	.06771	.05	-1	20	
1,1,1-trichloroethane	100	92.975	.05	7	20	
1,1-dichloropropene	.36773	.36052	.05	2	20	
carbontetrachloride	100	103	.05	-3	20	
Tertiary-Amyl Methyl Ether	.61944	.56257	.05	9	20	
1,2-dichloroethane	.34478	.37413	.05	-9	20	
benzene	1.0844	1.1075	.05	-2	20	
trichloroethene	.26234	.271	.05	-3	20	
1,2-dichloropropane	.26484	.27199	.05	-3	20	
bromodichloromethane	100	103	.05	-3	20	
1,4-Dioxane	.00221	.00233	.05	-5	20	F
dibromomethane	.13285	.14416	.05	-9	20	
4-methyl-2-pentanone	.08117	.07045	.05	13	20	
cis-1,3-dichloropropene	100	88.791	.05	11	20	
toluene	1.0085	.97885	.05	3	20	
trans-1,3-dichloropropene	100	84.120	.05	16	20	
2-hexanone	.21591	.18958	.05	12	20	

FORM VII MCP-8260-10

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1104711

Instrument ID: Elaine.i Calibration Date: 14-APR-2011 Time: 08:03

Lab File ID: 0414A01 Init. Calib. Date(s): 02-MAR-2 02-MAR-2

Sample No: 8260 CCAL Init. Calib. Times : 11:13 14:41

Compound	RRF	RRF	MIN RRF	%D	MAX %D
1,1,2-trichloroethane	.24604	.24238	.05	1	20
1,3-dichloropropane	.54589	.53686	.05	2	20
tetrachloroethene	.36438	.40985	.05	-12	20
chlorodibromomethane	100	104	.05	-4	20
1,2-dibromoethane	100	92.776	.05	7	20
chlorobenzene	1.0113	1.0392	.05	-3	20
1,1,1,2-tetrachloroethane	100	108	.05	-8	20
ethyl benzene	1.8005	1.9153	.05	-6	20
p/m xylene	.66602	.73518	.05	-10	20
o xylene	.6479	.71449	.05	-10	20
styrene	1.0832	1.2353	.05	-14	20
isopropylbenzene	1.6819	1.8078	.05	-7	20
bromoform	100	103	.05	-3	20
1,1,2,2,-tetrachloroethane	.62605	.54605	.05	13	20
1,2,3-trichloropropane	.5428	.46193	.05	15	20
n-propylbenzene	3.8835	3.7378	.05	4	20
bromobenzene	.79713	.82008	.05	-3	20
1,3,5-trimethylbenzene	2.6154	2.6840	.05	-3	20
2-chlorotoluene	2.7058	2.6101	.05	4	20
4-chlorotoluene	2.5561	2.4214	.05	5	20
tert-butylbenzene	2.2436	2.1883	.05	2	20
1,2,4-trimethylbenzene	2.5074	2.6688	.05	-6	20
sec-butylbenzene	3.3259	3.2395	.05	3	20
p-isopropyltoluene	2.5250	2.7073	.05	-7	20
1,3-dichlorobenzene	1.4280	1.4830	.05	-4	20
1,4-dichlorobenzene	1.4445	1.5443	.05	-7	20
n-butylbenzene	2.7218	2.8539	.05	-5	20
1,2-dichlorobenzene	1.3394	1.4005	.05	-5	20
1,2-dibromo-3-chloropropane	100	119	.05	-19	20
1,2,4-trichlorobenzene	.67012	.87006	.05	-30	20
hexachlorobutadiene	.40664	.48286	.05	-19	20
naphthalene	1.0865	1.2667	.05	-17	20
1,2,3-trichlorobenzene	.54585	.75017	.05	-37	20
dibromofluoromethane	.21421	.22955	.05	-7	20
1,2-dichloroethane-d4	.25692	.26761	.05	-4	20
toluene-d8	1.3727	1.3706	.05	0	20
4-bromofluorobenzene	1.0305	.87575	.05	15	20

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FORM VII MCP-8260-10